ABSTRACT

A system for the prioritization of quality of service (QoS) alerts and the analysis of the impact of such alerts on service uses a service model in which services are broken into one or more service components and sub-components. Creation of a service dependency model, which is driven by different phases of a service, is key to being able to understand how alerts at the lowest level of the network components affect the overall service for which they are but a component. Alerts are assigned a "handle" and a severity level. Rules are defined to be applied to the alerts to create a Component Status Indicator for each component including a handle. As each CSI propagates up towards the top of the service model dependency graph, each CSI gets modified according to predefined rules. A service impact index is created when the CSI is propagated to the top service component. For each service that is impacted, weights (multipler) are defined according to duration of the alert, number of subscribers, number of services, QoS class of the services impacted or other factors defined by user. The weights are used to multiply the SII to obtain the overall impacting index, which is sorted to obtain the priority list. This method can be employed either centrally at a network operations center or in a distributed manner by pre-processing at central offices. Information contained in the handle component of the CSI can be used to perform root cause analysis of the service impacting alerts so as to more efficiently identify and correct problems.